



AFCTN Test Report

94-094

AFCTB-ID
94-059



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TMSS Parsing Test

**MIL-M-83495A, Appendix C,
Job Guide**

Document Type Definition

MAXIMA Corporation

DISA Contract #DCA100-93-D-0065

Quick Short Test Report

23 May 1994



Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

DTIC QUALITY INSPECTED 3

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Quick Short Test Report

23 May 1994

Prepared By
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Air Force CALS Test Bed

Notification of Test Results

23 May 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

MAXIMA Corporation

Identified as follows:

Title:	MIL-M-83495A, Appendix C, Job Guide DTD Parsing Test
Program:	DISA
Program Office:	DISA
Contract No.:	DCA100-93-D-0065
QSTR No.:	AFCTB-ID 94-059

Received on the following media: **3.5" Diskette**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Media Format:	N/A
MIL-D-28000A IGES:	N/A
MIL-M-28001B SGML:	Pass
MIL-R-28002A Raster:	N/A
MIL-D-28003 CGM:	N/A

Formal results with associated disclaimer are documented and available from the AFCTB.

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of this informal test is to analyze Air Force Document Type Definitions (DTDs) for Standard Generalized Markup Language (SGML) syntax, using several commercial and public domain SGML parsers, prior to placing them in the Defense Information Systems Agency (DISA) Asset Source for Software Engineering Technology (ASSET) repository.

2. Test Parameters

Test Plan: AFCTB 94-059

Date of Evaluation: 23 May 1994

Evaluator:
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DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
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MAXIMA Corporation
2372 Lakeview Drive
Beavercreek OH 45431
(513) 427-5888

Data Description: Technical Manual Test
1 DTD

Data Source System:
Text/SGML

SOFTWARE
Unknown

Evaluation Tools Used:

MIL-M-28001 (SGML)
PC 486/50
Exoterica XGMNormalizer v1.2e3.2
Exoterica Validator v2.2 exl
McAfee & McAdam Sema Mark-it v2.3
Public Domain sgmls v1.1

Standards Tested: MIL-M-28001B

3. 1840A Analysis

3.1 External Packaging

The 3.5" diskette was hand delivered to the Air Force CALS Test Bed (AFCTB). It was not enclosed in any type of container.

The files received by the AFCTB were not MIL-STD-1840A files. The files were not named per the standard conventions, as the stated purpose of the evaluation was the basic data structure.

4. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report.

The goal was to configure the DTD under analysis as it would normally be used. However, for this analysis it was necessary to modify the DTD adding the "DOCTYPE doc [" statement to the start and the companion "]>" to the end of the DTD under evaluation, as stated in the comments of the DTD. If the parser did not support a formal file pointing to the location of the ISO character sets, this was added.

The DTD under evaluation, MIL-M-83495A, Appendix C, Job Guide, called for a companion MIL-M-38784C DTD. MIL-M-38784C, Amendment three DTD, delivered on the same diskette as the DTD to be evaluated, was used. This DTD was used without change except to insert the location of the ISO character set files.

<!-- MIL-M-83495A Job Guide DTD -->

D495AC0.ORG --> D784CB0.A3

The following notes apply to the parsing analysis as indicated in the ensuing paragraphs.

Note 1. Entity parameters defined more than once is a valid SGML construct. The warnings in this analysis do not indicate any problems.

Note 2. The occurrences of warnings "references defined, but not used," appeared because portions of the called DTD, i.e., MIL-M-38784C, were not used. They were not used because the entity definitions of the DTD under analysis altered the execution path in the called DTD. The warnings in this analysis do not indicate any problems.

4.1 Exoterica Validator

The DTD file was evaluated using the Exoterica Validator exl parser. The basic DTD was modified by placing the concrete syntax file and "<!DOCTYPE doc [" at the start, and the "]>" at the end. The parser reported 28 errors which related to the missing instance and are not considered errors for this analysis.

The parser reported 38 total warnings of two types. The first type warning was a parameter entity declared more than once. See Note 1 above.

```
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 37,  
    used in "\xgml\9459.dtd", line 195:  
A parameter entity name has been declared more than once.  
The entity is "%shorttitleuse".  
<!ENTITY % shorttitleuse "IGNORE" >  
^~~~~~
```

The second type warning related to elements defined but not used in any content model. See Note 2 above.

```
<!-- **Warning** in "\xgml\9459.dtd", line 332:  
An element is not allowed in the document instance because it does not  
appear in any accessible content model or it is completely excluded.  
The element is "ADDRESS".
```

4.2 Exoterica XGML Normalizer

The DTD file was parsed using the Exoterica *XGMLNormalizer* parser. The concrete syntax and "<!DOCTYPE doc [" were added to the start, and "]>" to the end of the file. No errors or warnings were issued by this utility.

4.3 Public Domain sgmls

The DTD file was evaluated using the Public Domain *sgmls* parser version 1.1. The file was modified by adding the "<!DOCTYPE doc [" to the start, and "]>" to the end of the file as stated in the comments in the DTD. The D784CB0.A3 file was used as the point to file. Eighteen warnings were reported by the parser, all of which were duplicate definitions. See Note 1 above.

```
sgmls: In file included at \ws\9459.dtd, line 122:  
Warning at i:\dtd\784c.dtd, line 37 in declaration parameter 4:  
Duplicate specification occurred for "%shorttitleuse"; duplicate  
ignored.
```

4.4 Sema Mark-it

The DTD file was evaluated using McAfee & McAdam's *Sema Mark-it* v2.3 parser. The file was modified by adding the concrete syntax and "<!DOCTYPE doc [" to the start, and "]>" to the end of the file. No errors or warnings were issued by this program.

5. Conclusions and Recommendations

The file D495AC0.ORG, MIL-M-83495A, Appendix C, conforms to the SGML syntax of ISO Standard 8879, as required by the CALS MIL-M-28001B specification.

The errors, warnings, and comments reported by the parsers used in this evaluation do not indicate any syntactical variances, nor indicate any problem that would invalidate the effective application of this DTD.

6. Appendix A - Detailed SGML Analysis

6.1 Exoterica Validator

```
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 37,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%shortitleuse".
<!ENTITY % shortitleuse "IGNORE" >
^~~~~~^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 45,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%shorttitle".
<!ENTITY % shorttitle " " >
^~~~~~^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 47,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%yesorno".
<!ENTITY % yesorno "NUMBER" >
^~~~~~^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 50,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%itemid".
<!ENTITY % itemid
^~~~~~^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 62,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%content".
<!ENTITY % content
^~~~~~^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 71,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%bodyatt".
<!ENTITY % bodyatt
^~~~~~^

-->
```

```
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 84,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%secur".
<!ENTITY % secur "security (u | c | s) 'u'" >
      ^^^^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 107,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%frnt".
<!ENTITY % frnt "(idinfo, warnpage?, chginssht?, lep, verstat?,
      ^^^^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 138,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step1con".
<!ENTITY % step1con "(warning*, caution*, note*, para, note*),
      ^^^^^^^^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 141,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step2con".
<!ENTITY % step2con "(warning*, caution*, note*, para, note*),
      ^^^^^^^^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 144,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step3con".
<!ENTITY % step3con "(warning*, caution*, note*, para, note*),
      ^^^^^^^^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 147,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step4con".
<!ENTITY % step4con "(warning*, caution*, note*, para, note*),
      ^^^^^^^^

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 150,
   used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step5con".
<!ENTITY % step5con "(warning*, caution*, note*, para, note*),
      ^^^^^^^^
```

```
-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 153,
    used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step6con".
<!ENTITY % step6con "(warning*, caution*, note*, para, note*),
^~~~~~>

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 156,
    used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%step7con".
<!ENTITY % step7con "(warning*, caution*, note*, para, note*)" >
^~~~~~>

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 165,
    used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%bodyele".
<!ENTITY % bodyele "(chapter, chapter+, ddchapter?)" >
^~~~~~>

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 185,
    used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%chap".
<!ENTITY % chap "%titles;, ((section, section+) | para0+),
^~~~>

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 226,
    used in "\xgml\9459.dtd", line 195:
A parameter entity name has been declared more than once.
The entity is "%stepatt".
<!ENTITY % stepatt "%bodyatt; %secur;" >
^~~~~~>

-->
<!-- **Warning** in "\xgml\9459.dtd", line 332:
An element is not allowed in the document instance because it does not
appear in any accessible content model or it is completely excluded.
The element is "ADDRESS".
```

-->

<<<< PART OF MESSAGE TEXT REMOVED HERE >>>>

The element is "APPENDIX".
The element is "CHGINSSHT".
The element is "CHGLIST".
The element is "CHGREC".
The element is "DOC".
The element is "DOCPART".
The element is "FOLDSECT".
The element is "GLOSSARY".
The element is "ILLUSLIST".
The element is "INDEX".
The element is "INSERTPG".
The element is "INTRO".
The element is "PREFACE".
The element is "REAR".
The element is "REMOVEPG".
The element is "SECTION".
The element is "SHORTTITLE".
The element is "VOLUME".
The element is "WARNPAGE".

<!-- Capacity points/limits:
TOTALCAP =124042/200000
ENTCAP =12768/200000
ENTCHCAP =13283/70000
ELEMCAP =5696/70000
GRPCAP =29408/70000
EXGRPCAP =736/70000
EXNMCAP =1248/70000
ATTCAP =41696/200000
ATTCHCAP =932/70000
AVGRPCAP =18016/70000
NOTCAP =96/70000
NOTCHCAP =163/70000
IDCAP =0/70000
IDREFCAP =0/70000
MAPCAP =0/70000
LKSETCAP =0/70000
LKNMCAP =0/70000

-->

<<<< ERRORS FROM THIS POINT ON RELATE TO NO DOCUMENT INSTANCE AND ARE NOT CONSIDERED
FOR THIS REPORT >>>>

<!-- **Error** in "\xgml\9459.dtd", line 333:
The document instance must consist of at least one tag or data character.
The following element can start: "DOCJG".

-->

<<<< PART OF LOG REMOVED HERE >>>>

```
<!-- **Error** in "\xgml\9459.dtd", line 333:  
An element must not end before its content model is completely satisfied.  
The element with unsatisfied content is "DOCJG".  
-->  
<!-- Capacity points/limits:  
    TOTALCAP =124042/200000  
    ENTCAP   =12768/200000  
    ENTCPCHCAP =13283/70000  
    ELEMCP   =5696/70000  
    GRPCAP   =29408/70000  
    EXGRPCAP =736/70000  
    EXNMCP   =1248/70000  
    ATTCP    =41696/200000  
    ATTCPCHCAP =932/70000  
    AVGRPCAP =18016/70000  
    NOTCAP   =96/70000  
    NOTCPCHCAP =163/70000  
    IDCAP    =0/70000  
    IDREFCAP =0/70000  
    MAPCAP   =0/70000  
    LKSETCAP =0/70000  
    LKNMCP   =0/70000  
-->  
<!-- 28 errors and 38 warnings reported. -->
```

6.2 Exoterica XGMLNormalizer Parser

No reported errors or warnings.

6.3 Public Domain sgmls Log

```
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 37 in declaration parameter 4:  
        Duplicate specification occurred for "%shorttitleuse"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 45 in declaration parameter 4:  
        Duplicate specification occurred for "%shorttitle"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 47 in declaration parameter 4:  
        Duplicate specification occurred for "%yesorno"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 60 in declaration parameter 4:  
        Duplicate specification occurred for "%itemid"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 69 in declaration parameter 4:  
        Duplicate specification occurred for "%content"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 80 in declaration parameter 4:  
        Duplicate specification occurred for "%bodyatt"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 84 in declaration parameter 4:  
        Duplicate specification occurred for "%secur"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 109 in declaration parameter 4:  
        Duplicate specification occurred for "%frnt"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 139 in declaration parameter 4:  
        Duplicate specification occurred for "%step1con"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 142 in declaration parameter 4:  
        Duplicate specification occurred for "%step2con"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 145 in declaration parameter 4:  
        Duplicate specification occurred for "%step3con"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 148 in declaration parameter 4:  
        Duplicate specification occurred for "%step4con"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 151 in declaration parameter 4:  
        Duplicate specification occurred for "%step5con"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 154 in declaration parameter 4:  
        Duplicate specification occurred for "%step6con"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 156 in declaration parameter 4:  
        Duplicate specification occurred for "%step7con"; duplicate ignored
```

```
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 165 in declaration parameter 4:  
        Duplicate specification occurred for "%bodyele"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 186 in declaration parameter 4:  
        Duplicate specification occurred for "%chap"; duplicate ignored  
sgmls: In file included at \ws\9459.dtd, line 122:  
    Warning at i:\dtd\784c.dtd, line 226 in declaration parameter 4:  
        Duplicate specification occurred for "%stepatt"; duplicate ignored
```

6.4 Sema Mark-it Log

```
ATTCNT --100-- 46  
ATTSPLEN --960-- 0  
BSEQLEN --960-- 0  
DTAGLEN --16-- 0  
DTEMPLEN --16-- 0  
ENTLVL --16-- 2  
GRPCNT --32-- 22  
GRPGTCNT --96-- 27  
GRPLVL --16-- 5  
LITLEN --3048-- 730  
NAMELEN --32-- 13  
NORMSEP --2-- 0  
PILEN --240-- 0  
TAGLEN --960-- 0  
TAGLVL --24-- 0  
MSDLVL --24-- 1  
TOTALCAP --200000-- 129866  
ENTCAP --200000-- 16000  
ENTCHCAP --70000-- 10726  
ELEMCAP --70000-- 5696  
GRPCAP --70000-- 34528  
EXGRPCAP --70000-- 768  
EXNMCAP --70000-- 1248  
ATTCAP --200000-- 41696  
ATTCHCAP --70000-- 932  
AVGRPCAP --70000-- 18016  
NOTCAP --70000-- 96  
NOTCHCAP --70000-- 160  
IDCAP --70000-- 0  
IDREFCAP --70000-- 0  
MAPCAP --70000-- 0  
LKSETCAP --70000-- 0  
LKNMCAP --70000-- 0
```